CLAIMS

1. Power control device for calibrating the power of a transmitter or receiver in a mobile communication network comprising an antenna array, the device being adapted to transmit or receive burst signals to the antenna array which burst signals include a fixed training sequence, comprising a calibration means for calibrating the transmission or receiving power of the transmitter or receiver, the calibrating means including a summing means connected to the antenna array for summing transmission or reception signals, and a common calibrating device for calibrating the summed signals.

2. Device according to claim 1, comprising a transmission branch and a reception branch, and a first switch means for switching the connection of the summing means either to the transmission branch or to the reception branch.

3. Device according to claim 2, comprising a second switch means for switching the connection of the transmission branch either to the summing means or first switch means, or to a reference coupler for supplying a reference signal to the transmission branch.

4. Device according to claim 2 or 3, comprising a further switch means provided in the transmission branch for temporarily blanking the transmission branch.

5. Device according to any one of the preceding claims, wherein the device is adapted to measure, for transmit

calibration (Tx calibration), idle timeslots with only one column active.

6. Device according to any one of the preceding claims, wherein for receive calibration, a dummy burst is generated and modulated onto a carrier, the dummy burst is received in each branch of a transmitter, and the amplitude and phase differences between each path are measured and used as a new receive calibration offset.

7. Device according to any one of the preceding claims, comprising a power amplifier and a power control loop for controlling the output power of the power amplifier, wherein the device is adapted to detect the output power of the power amplifier only when outputting the training sequence and to control the power based on the detected output power.

8. Device according to any one of the preceding claims, comprising a chipset of a mobile terminal which is used for calibration.

9. Device according to any one of the preceding claims, comprising a passive coupling network in the antenna array and a calibration board which works at radio frequencies.

10. Device according to any one of the preceding claims, comprising a power control loop containing a detector means for detecting the output of the power amplifier, and a control means for controlling the detector means so as to detect the output of the power amplifier only during the time of output of a training sequence.

11. Device according to any one of the preceding claims, comprising an open loop static power control for controlling the output power of a power amplifier, wherein the open loop

static power control comprises a controllable attenuator means arranged upstream of the input side of the power amplifier, the controllable attenuator means being controlled by a control means of the device.

12. Device according to any one of the preceding claims, which is adapted to set the output power on the basis of information measured in a previous timeslot and no power corrections are made during a measured timeslot.

13. Device according to any one of the preceding claims, for application in a smart antenna structure comprising several antennas, including a power amplifier in each antenna path, a common attenuator, and a splitter arranged between the common attenuator and the antenna pathes, each power amplifier including a power control loop.

14. Power control method for calibrating the power of a transmitter or receiver in a mobile communication network comprising an antenna array, wherein burst signals are transmitted to, or received by, the antenna array which burst signals include a fixed training sequence, comprising a calibration step for calibrating the transmission or receiving power of the transmitter or receiver, the calibrating step including a summing step for summing transmission or reception signals of the antenna array, and a common calibrating step for commonly calibrating the summed signals.

15. Method according to claim 14, comprising a transmission branch and a reception branch, and a first switch means for switching the connection of a summing means performing the summing step either to the transmission branch or to the reception branch.

16. Method according to claim 15, comprising a second switch means for switching the connection of the transmission branch either to the summing means or first switch means, or to a reference coupler for supplying a reference signal to the transmission branch.

17. Method according to claim 15 or 16, comprising a blanking step for temporarily blanking the transmission branch.

18. Method according to any one of the preceding method claims, wherein, for transmit calibration (Tx calibration), idle timeslots are measured with only one column active.

19. Method according to any one of the preceding method claims, wherein for receive calibration, a dummy burst is generated and modulated onto a carrier, the dummy burst is received in each branch of a transmitter, and the amplitude and phase differences between each path are measured and used as a new receive calibration offset.

20. Method according to any one of the preceding method claims, comprising a power amplifier and a power control loop for controlling the output power of the power amplifier, wherein the output power of the power amplifier is detected only when outputting the training sequence and the power is controlled based on the detected output power.

21. Method according to any one of the preceding method claims, wherein the output power is set on the basis of information measured in a previous timeslot and no power corrections are made during a measured timeslot.

22. Method according to any one of the preceding method claims, for application in a smart antenna structure

comprising several antennas, including a power amplifier in each antenna path, a common attenuator, and a splitter arranged between the common attenuator and the antenna pathes, each power amplifier including a power control loop.